

GSAW 2012 Tutorial E:

Engineering Space Systems with Off-the-Shelf (OTS) Software

Length: Half day

Overview:

Warfighters expect increased mission capability delivered with shorter cycle than under traditional acquisition approaches. Development organizations cannot build, test, and deliver the breadth of desired capability as custom capability in the needed timeframes. In response, acquirers and developers think that off-the-shelf (OTS) products or components offer the potential to build and deliver systems relatively quickly. They desire to leverage existing products, which may come from a variety of sources: commercial, open source, and government. While commercial OTS (COTS), government OTS (GOTS), and open source products have been around for a number of years, program office staff continue to struggle with effectively selecting, acquiring, and using OTS products as they engineer today's systems. This tutorial provides an introduction to high-priority issues and potential solutions for program managers and their technical and contract support staff to improve their use of OTS products.

Instructors: Lisa Brownsword, Patricia Oberndorf, Software Engineering Institute

Biographies:

Lisa Brownsword is a senior member of the Acquisition Support Program at the Software Engineering Institute (SEI). She is currently supporting government programs in the application of system and software engineering practices for today's complex, software-reliant systems that interoperate with 4 other critical systems in high threat environments. Lisa co-developed methods to analyze the organizational, governance, and management aspects for Systems of Systems (SoS) environments as a member of the SoS Practices initiative. She co-developed a framework for analyzing the software assurance landscape, with a focus on malicious software management, as part of the SoS Software Assurance (SoSSA) initiative.

Previously, Lisa was a member of the COTS-Based Systems (CBS) initiative where she developed the Evolutionary Process for Integrating COTS-based systems (EPIC). She founded and was the inaugural conference chair for the International Conference on Composition-Based Software Systems (ICCBSS). Lisa has over 20 years of experience in developing large, software-reliant systems along with training and consulting on a variety of software engineering practices. She has authored numerous articles and technical reports and delivered presentations at conferences and workshops worldwide. Recent publications include A Framework for Modeling the Software Assurance Ecosystem: Insights from the Software Assurance Landscape Project, an SEI technical report, and Organizational Implications of Systems of Systems, a tutorial presented at NDIA Systems Engineering Conference.

Patricia Oberndorf is a Senior Member of the Technical Staff in the Acquisition Support Program at the Software Engineering Institute (SEI). She has led work in interoperability and systems of systems; software acquisition; service-oriented architectures; software assurance; and remaking traditional risk management into success management. Her previous work has been in software engineering environments, open systems and open systems architectures, and in

engineering systems based on the incorporation of commercial off-the-shelf (COTS) products. Her publications include the book, *Managing Software Acquisition: Open Systems and COTS Products*. Before coming to the SEI she spent 20 years with the Navy.

What Participants Should Expect to Learn:

At the conclusion of the tutorial participants will be able to

- identify the key characteristics of an OTS system and explain why a different development approach is needed
- list key differences for major engineering and management lifecycle activities when using OTS products
- describe the key elements of an example process that was designed explicitly to support the formation, deployment, and evolution of OTS-based systems
- describe key items to cover as part of a project's OTS planning process, such as OTS strategy and costs, OTS product evaluation, supplier management, and OTS evolution at the product and system levels

Who Should Attend:

This tutorial is intended for program managers, acquisition support staff, and technical engineers, regardless of their level of expertise with OTS-based systems. There is no prerequisite.